



South Carolina Rabbit Hunter Survey 2016-2017

The Small Game Project, South Carolina Department of Natural Resources (SCDNR), implemented the South Carolina Rabbit Hunter Survey in the 1991-92 season. The survey was designed to provide reliable, quantitative information about rabbit numbers and rabbit hunter success across the state.

This report presents information from the latest survey and compares data collected for the past 10 years. Information is used to identify trends in rabbit populations and rabbit hunting activities in South Carolina.

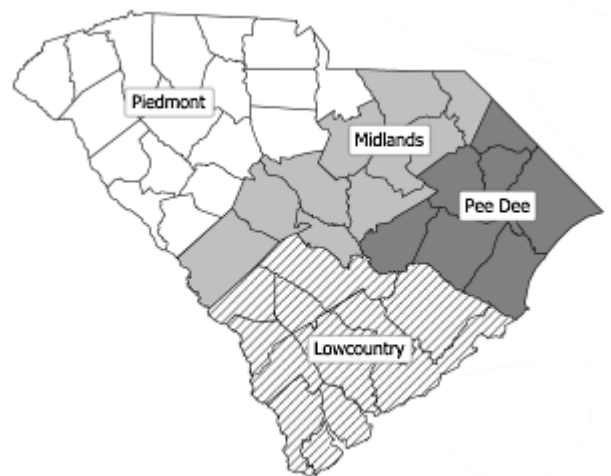
Methods

Individuals contacted for this rabbit hunter survey included respondents to last year's survey and persons who called, emailed, or wrote requesting a survey form this past year. Potential survey cooperators are also solicited through public presentations and the SCDNR website. In addition, hunters were provided the opportunity to sign-up to participate online and given the option of downloading a hunt report form or reporting their hunts directly using their computer or mobile device. Hunters interested in participating in this annual event can sign up at www.dnr.sc.gov/surveys/smallgame.

Hunters participating via postal service were provided with data sheets, instructions, and self-addressed stamped envelopes prior to the start of the 2016-17 rabbit hunting season. All cooperators were asked to keep accurate records of their hunting activities and to provide the following information about each individual hunt: date and county of hunt, number of hunters, number of hours hunted, number of rabbits jumped, number of rabbits harvested, and quail coveys and woodcock flushed. Additional information requested includes the number and species of rabbits bagged during the season along with comments on dog performance and season quality. Information on food habits, diseases and general comments was also requested.

At the end of the hunting season, a reminder was sent or emailed to each individual asking that the survey form be returned or online submissions be finalized. A period of 60 days was allowed for hunters to respond at which time data were analyzed by county, geographic region, and statewide.

South Carolina is divided into four broad geographic regions based on habitat. The "Piedmont" encompasses about 1/3 of the state and includes the mountain and foothills area. The "Midlands" extends on a broad northeast/southwest axis across the upper coastal plain of the state. The "Pee Dee" region is located on the northern lower coastal plain and the "Lowcountry" is situated in the southern lower coastal plain.



Results and Discussion

Statewide

A total of 13 individuals responded to the survey. Survey cooperators recorded 140 hunts and logged 559.25 hours in the field. Hunting parties averaged just fewer than four hunters per trip and the average hunt length was 4.02 hours. Based on this information, survey cooperators and their companions expended a minimum of 15.1 man-hours/hunt (2,096 total man-hours) in pursuit of rabbits during the 2016-17 season.

Hunting parties jumped an average of 1.58 rabbits per hour and harvested 1.05 rabbits per hour. Based on our survey, 66% of rabbits jumped were harvested. Cottontails (*Sylvilagus floridanus*) were the predominant species reported harvested followed by marsh rabbits (*S. palustris*) and swamp rabbits (*S. aquaticus*). (Figure 1).

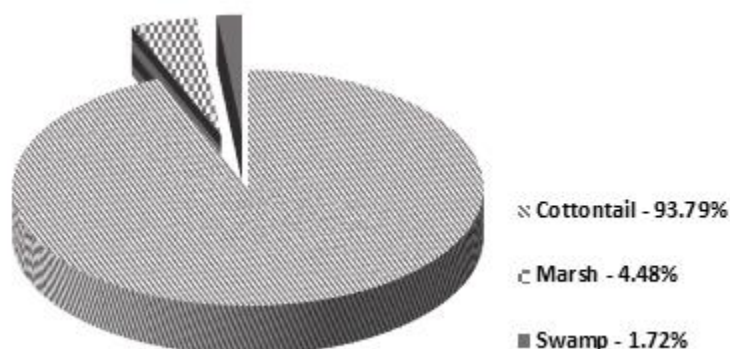
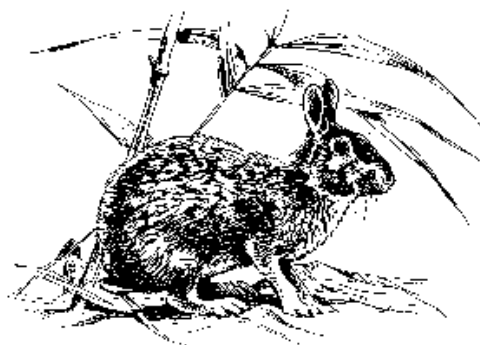


Figure 1. Reported species composition of rabbits harvested by cooperators, South Carolina Rabbit Hunter Survey, 2016-17.

Historically, swamp rabbits have been documented only in the Savannah River drainage of Oconee, Pickens, and Anderson Counties (Webster et. al. 1985, Platt and Bunch 2000). It is likely that some marsh rabbits are mistakenly identified as swamp rabbits. Cooperators are provided with a fact sheet describing how to distinguish the three species of rabbits. In addition, SCDNR is conducting research to definitively map the distribution of the three species in the state. Any hunters interested in assisting are encouraged to contact the small game program at 803-734-3940 or hookm@dnr.sc.gov.



The number of hunts reported were highest for the Northern Coastal Plain followed by the Piedmont and Southern Coastal Plain. The least represented region was the Midlands with only 8 reported hunts (5.71%) (Figure 2). The highest rabbit-jumping rate (2.1) was recorded for Midland's hunts. The Piedmont, Southern Coastal Plain, and Northern Coastal Plain, had 1.57, 1.21, and 0.67 rabbits jumped per hour, respectively (Figure 3).

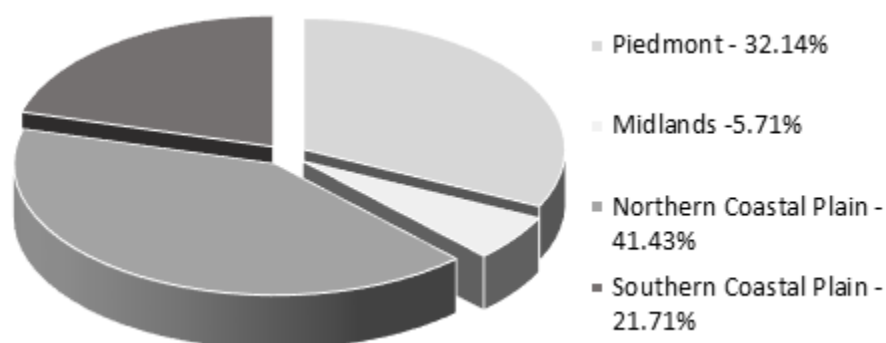


Figure 2. Percentage of rabbit hunts by region, South Carolina Rabbit Hunter Survey, 2016-17.

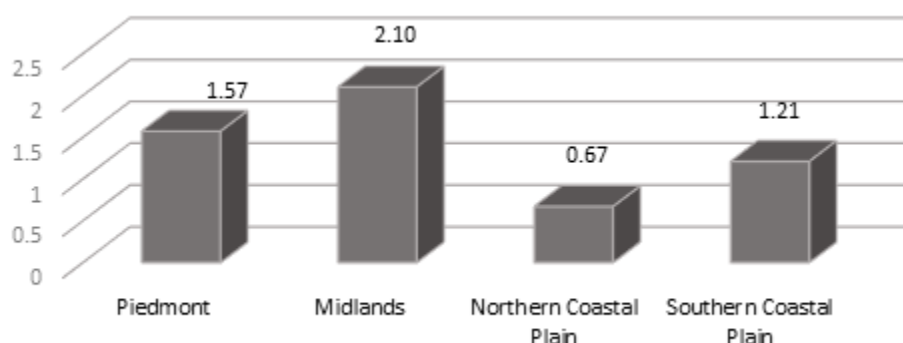


Figure 3. Average number of rabbits jumped per hour by region, South Carolina Rabbit Hunter Survey, 2016-17.

County Results

Survey cooperators reported rabbit hunting activity from 20 of the 46 counties in South Carolina during the 2016-17 season. Edgefield County led the state in hunter effort (hours hunted) with hunters logging 145.75 hours in the field during 35 hunts. Following Edgefield in hunter effort were Hampton (130 hours, 27 hunts), Lee (81.5 hours, 29 hunts), and Sumter (36.5 hours, 10 hunts) Counties.

Rabbits jumped per hour for the leading counties (5 hunt minimum) were: Lee (2.96), Edgefield (2.02), Hampton (1.18), Sumter (0.77) and Abbeville (0.75). Jumping rates may have variables affecting them such as shooting (or not shooting) on the initial jump, cover thickness delaying a killing shot during the chase, and letting the dogs run for exercise or training. However, jumping rates do give an index to the relative abundance of rabbits in a given area.

Comparison to 2015-16 Survey

Number of hunts (139) recorded by all hunting parties increased from 126 with a corresponding increase in total hours afield from 523.75 to 559.25 hours. Average hunt length, however, decreased slightly from 4.19 to 4.02 hours. The minimum number of man-hours expended by rabbit hunters and their companions increased from 1,815 to 2,096. However, the number of rabbits jumped per hour increased substantially from 1.32 in 2015-16 to 1.58 in 2016-17. Rabbits harvested per hour also increased from 0.84 to 1.05.

Table 3 summarizes the data collected for the past 10 years of the survey and Figure 4 shows the trend in rabbits jumped and harvested per hour. The number of rabbits jumped per hour fluctuates annually but has remained

relatively stable over the past 10 years. Due to the relatively small sample sizes of cooperators and hunts, factors other than rabbit abundance can contribute significantly to changes in the rabbits jumped per hour index.

The number of counties reporting rabbit hunting activity declined from 27 in 2015-16 to 21 for this past season. In 2016-17 Edgefield, Hampton, and Lee counties were first, second, and third, respectively, in hunter effort (hours hunted), followed by Abbeville County. In 2016-17, rabbits jumped per hour (minimum of 10 hunts), were highest in Lee, Hampton, Sumter, and Abbeville Counties.

Statewide, quail flushes decreased from 0.04 coveys per hour to 0.03 coveys per hour while the number of coveys flushed decreased from 23 in 2015-16 to 18 in 2016-17. Woodcock flushed per hour was comparable to the previous year going from 0.11 in 2015-2016 to 0.09 in 2016-17. Total woodcock flushed declined from 55 to 50 from 2015-16 to 2016-17. This was the 21st year data were collected on number of woodcocks flushed.

Table 3. Statewide results, South Carolina Rabbit Hunter Survey, 2007-2016.

Year of Survey	Rabbits Jumped per Hour	Rabbits Harvested per Hour	Quail Coveys Flushed per Hour
2007-08	1.35	0.83	0.02
2008-09	1.37	0.78	0.04
2009-10	1.20	0.70	0.03
2010-11	1.43	0.77	0.03
2011-12	1.49	0.92	0.04
2012-13	1.41	0.77	0.02
2013-14	1.05	0.63	0.02
2014-15	1.13	0.70	0.03
2015-16	1.32	0.84	0.04
2016-17	1.58	1.05	0.03

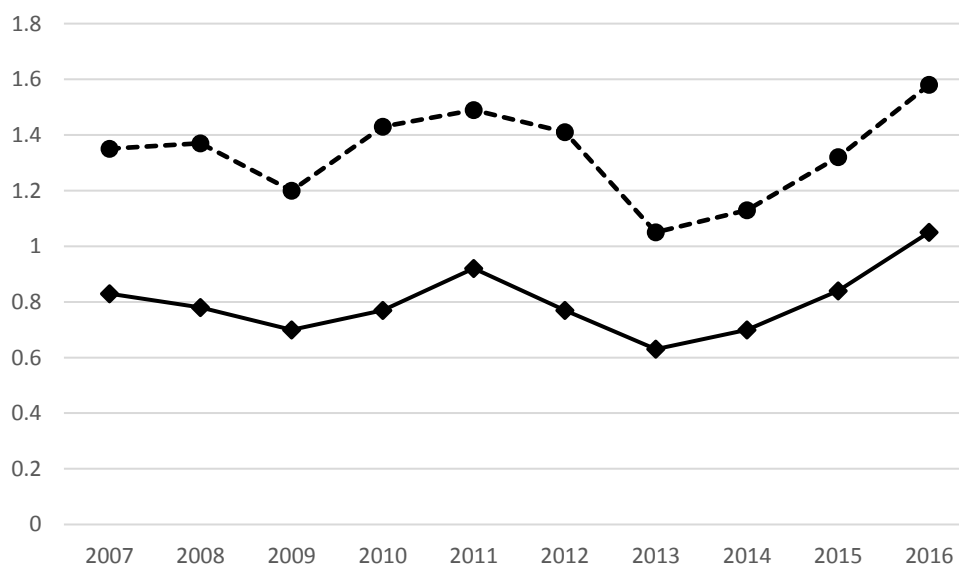


Figure 4. Rabbits jumped per hour (dashed line) and rabbits harvested per hour (solid line), South Carolina Rabbit Hunter Survey, 2007-16.

Cooperator Comments

Twelve hunters provided a rating for the 2016-17 rabbit-hunting season. Of these, 42% (5) rated the season as good, 33% fair and 25% poor. Of the 9 hunters reporting their dog performance, 5 reported good performance, 1 reported fair, and 1 reported poor.

Cooperators reported lack of quality rabbit habitat on public lands and restricted access on private lands leased by deer hunting clubs as ongoing negative issues. In addition, warm weather appeared to be causing some concern among cooperators.

When used as an index of abundance, the rabbit jumping rate for the 2016-17 rabbit season would indicate an increase in population from the previous year. However, numerous factors, including weather and dog performance, also have substantial impacts on rabbit jump rate. As in all wildlife species, rabbit populations are directly linked to the quantity and quality of available habitat.

Summary

The 2016-17 Rabbit Hunter Survey marked the 26th year of building a database on rabbit populations and rabbit hunter success in South Carolina. Plans are to continue this survey during the 2017-2018 season. Additional efforts will be made to increase cooperator response as well as reporting accuracy. We will continue to refine our online reporting system to make participation as convenient as possible for our hunters.

If you are aware of someone who hunts rabbits but does not participate in this survey, please encourage them to do so. Potential cooperators should contact the DNR Small Game Project at 803-734-3940 or hookm@dnr.sc.gov.

A reminder for next year: Data cannot be entered without hunter name and address or if all hunts are submitted as one entry.

Literature Cited

Webster, W. D., J. F. Parnell, Jr. and W. C. Biggs, Jr. 1985. Mammals of the Carolinas, Virginia and Maryland. The University of North Carolina Press.

Platt, Steven G., and Mary Bunch. 2000. Distribution and Status of the Swamp Rabbit in South Carolina. Proc Annual Conference, Southeast Association Fish and Wildlife Agencies 54:407-413.